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Positive expectancies and mental health: Identifying the unique contributions of hope and optimism

Matthew W. Gallagher [a] & Shane J. Lopez [b]
[a] Department of Psychology, University of Kansas, Kansas, USA
[b] Clifton Strengths Institute & Gallup, Omaha, NE, USA
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Positive expectancies and mental health: Identifying the unique contributions of hope and optimism

Matthew W. Gallagher[a]* and Shane J. Lopez[b]

[a]*Department of Psychology, University of Kansas, Kansas, USA;* [b]*Clifton Strengths Institute & Gallup, Omaha, NE, USA*

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Contemporary theories of hope and optimism provide two explanations for how positive expectancies can shape human behavior and promote well-being. Scheier and Carver's theory of optimism focuses on generalized expectations of positive outcomes, whereas Snyder's hope theory focuses on how evaluations of personal agency can facilitate goal attainment. Although the theoretical distinctions between these constructs have previously been articulated, few studies have jointly examined the two constructs in order to determine unique effects, and some have questioned whether the constructs are truly distinct. This study therefore examines whether hope and optimism (1) are distinct latent constructs, (2) have unique effects on components of flourishing mental health, and (3) differentially relate to the components of flourishing mental health. Confirmatory factor analysis results and a bootstrapped structural equation model indicate that hope and optimism are distinct latent constructs that each uniquely predict a moderate proportion of variance of the components of well-being.

Keywords: hope; optimism; well-being; flourishing; SEM; bootstrap, agency

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Introduction

Interest in the individual difference and psychological factors that can promote well-being has increased in recent years as research examining the characteristics and structure of well-being has begun to clarify the nature of positive mental health (Gallagher, Lopez, & Preacher, 2009; Keyes, 2005, 2007). Positive expectancies for the future, commonly conceptualized as hope and optimism in both popular media and psychological literature, have received a great deal of attention as potential mechanisms by which one may achieve positive mental health. Although hope and optimism are often used interchangeably in common speech, current research suggests that hope and optimism are distinct constructs and that hope and optimism may provide two distinct mechanisms by which positive expectancies can shape human behavior and produce positive outcomes (Bryant & Cvengros, 2004; Rand, 2009; Snyder, 2002; Snyder, Sympson, Michael, & Cheavens, 2001).

Positive expectancies: hope and optimism

Snyder's (2002) theory of hope[1] and Scheier and Carver's (1985) theory of optimism share the underlying perspective that virtually all human behavior can be understood in terms of goal pursuits. The two theories also both suggest that dispositional positive expectancies are critical in understanding and explaining how individuals pursue and achieve goals (Carver & Scheier, 1998, 2002a; Snyder, 2002). The theories diverge, however, in the roles they assign to personal agency and pathways thinking (Carver & Scheier, 2002b; Snyder, 2002).

Optimism[2] focuses on more generalized expectancies (e.g., I will achieve my goal) and places less emphasis on how or why the goal is attained (Carver & Scheier, 2002b). Hope theory places a greater emphasis on the presence of personal agency[3] related to goals (the 'will') and the identification of strategies to achieve those goals (the 'ways') (Rand & Cheavens, 2009; Snyder, 2002; Snyder et al., 1991). Hope theory therefore suggests that in addition to endorsing such statements as 'I will achieve my goal,' a high hope individual would endorse statements similar to 'I have a plan for how I am going to achieve this goal' and 'I am motivated and confident in my ability to use this plan to achieve this goal.'

This difference in the importance placed on personal agency provides the foundation for understanding how hope and optimism may independently and differentially contribute to positive outcomes. In situations or goal pursuits where individuals believe that the outcome primarily depends upon their own behavior (i.e. internal locus of control; Rotter, 1966),

*Corresponding author. Email: mwg@ku.edu

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the positive expectancies related to personal agency that are emphasized in hope theory are likely to be more relevant and have more of an impact on functioning. For example, if an individual is concerned about performing well on an academic exam, the ability to identify a concrete plan for success (i.e. pathways thinking) and having the motivation to implement this plan (i.e. agency thinking) may be more adaptive than just believing that things will somehow turn out well (i.e. optimism).

Alternatively, in situations or goal pursuits where individuals believe that the outcome primarily depends upon the behavior of others or external circumstances (i.e. external locus of control), the generalized positive expectancies that are emphasized in optimism theory are likely to be more relevant and have more of an impact on functioning. For example, if an individual is concerned about the safety of flying home for the holidays, the belief that airline pilots and crews are competent and will fly the plane safely (i.e. optimism) is likely to be more helpful than the belief that the individual could personally figure out a plan for landing the plane (i.e. pathways thinking) and successfully execute such a plan (i.e. agency thinking) in the event of a catastrophe. Actual or perceived control therefore likely moderates the relative impact that hope or optimism beliefs have in a given situation. Optimal functioning would therefore result from the presence of high levels of both hope and optimism, as this would help individuals to maintain positive expectancies regardless of the degree of control they may have over a given outcome. Empirical evidence to date supports this notion that both hope and optimism contribute to positive outcomes.

Positive expectancies and well-being

Both Snyder's theory of hope and Carver and Scheier's theory of optimism have been extensively studied in recent decades. Previous research has demonstrated associations between hope, optimism and well-being in numerous populations and studies (Carver & Scheier, 2002a; Snyder, 2002). Most of this previous research has independently examined the effects of either hope or optimism. There are, however, three notable exceptions.

In a sample of 204 undergraduates, Magaletta and Oliver (1999) determined that hope and optimism are distinct latent constructs that uniquely predict a general measure of well-being. Similarly, in a sample of 351 undergraduates, Bryant and Cvengros (2004) used structural equation modeling to evaluate the distinctiveness of hope and optimism and determined that hope and optimism have differential effects on coping strategies and general self-efficacy. A more recent study found that, although the facets of hope and optimism were both correlated with life satisfaction, only the agency subscale of hope consistently predicted a unique amount of variance (Bailey, Eng, Frisch, & Snyder, 2007). Although these studies have consistently demonstrated that hope and optimism are both associated with well-being, this research has focused on only a limited range of the factors that are currently believed to represent well-being and flourishing mental health.

The structure of well-being

Recent conceptualizations of well-being have identified three related, but distinct domains of well-being that have developed from the hedonic and eudaimonic philosophical traditions (Keyes, 2005; Ryan & Deci, 2001). Hedonic well-being (also known as subjective well-being) is defined as the frequent experience of pleasant emotions and moods, the infrequent experience of negative emotions and moods, and high levels of self-avowed life satisfaction (Diener, 1984). The eudaimonic approach to well-being, exemplified by Ryff's (1989) model of psychological well-being, focuses on how individuals strive to function fully and realize their unique abilities (Waterman, 1993). Ryff's model identifies six related, but distinct facets of eudaimonic well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

Keyes' (1998) model of social well-being extends the eudaimonic tradition to the interpersonal realm and focuses on the social tasks encountered by adults in their social lives. Keyes' theory of social well-being identifies five facets of social well-being: social acceptance, social actualization, social coherence, social contribution, and social integration. Together, these five factors represent whether individuals are flourishing within their social environment. Recent empirical work has demonstrated that when each of the components of hedonic, eudaimonic, and social well-being are reliably measured, the 14 factors of well-being can be integrated into a hierarchical model of well-being that encompasses the breadth of these varied traditions (Gallagher et al., 2009).

The present study

The present study had three goals. First, we sought to determine whether hope and optimism are distinct latent constructs, as suggested by Snyder (2002) and Carver and Scheier (2002a, 2002b). Despite previous research suggesting that the two constructs are distinct (Magaletta & Oliver, 1999), some researchers question whether hope and optimism are distinct constructs or whether they are simply two names for the same underlying latent construct (Aspinwall & Leaf, 2002;

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Tennen, Affleck, & Tennen, 2002). We used confirmatory factor analysis to explore whether hope and optimism are best conceptualized as distinct latent constructs. Our hypothesis was that hope and optimism would be highly related but distinct latent constructs that each represent a unique aspect of how individuals maintain positive expectancies for the future.

Second, we sought to determine whether hope and optimism independently predict multiple components of positive mental health. Although existing research consistently demonstrates that hope and optimism are associated with well-being, there has been great variability in how well-being has been operationalized and how comprehensively it is measured (rarely are multiple measures of well-being used). Previous research has generally focused on exploring how hope and optimism relate to hedonic well-being and has not adequately examined how these positive expectancies for the future may reflect or promote eudaimonic and social well-being. In addition, few studies have examined hope and optimism together and it remains unclear whether hope and optimism have unique or independent effects on well-being. We therefore examined the unique effects of hope and optimism on the six facets of eudaimonic well-being (Ryff, 1989), the five facets of social well-being (Keyes, 1998), and the three facets of hedonic well-being (Diener, 1984) using structural equation modeling. Our hypothesis was that hope and optimism would both be associated with each of the 14 facets of well-being as we believe that positive perceptions of personal agency (i.e. hope) and generalized positive expectancies (i.e. optimism) are both important contributors to positive psychological functioning.

Third, we examined whether hope and optimism differentially relate to the aspects of well-being. The theories of hope and optimism emphasize different aspects of how individuals pursue their goals and it is possible that certain aspects of well-being are more dependent on the perceptions of personal agency emphasized within hope theory whereas other aspects of well-being are more dependent on the more generalized positive expectancies emphasized in optimism theory. We therefore examined the comparative magnitude of the effects of hope and optimism on the components of well-being in order to determine whether hope and optimism have differential effects on certain components of well-being.

Our hypothesis was that hope and optimism would contribute equally to the prediction of hedonic well-being as hope and optimism should both facilitate goal achievement and the components of hedonic well-being (positive and negative affect, life satisfaction) reflect the extent to which individuals perceive themselves to be making progress towards or meeting their goals (Brunstein, 1993; Emmons, 1986; Snyder, 2002). Similarly, we hypothesized that hope and optimism would equally contribute to the prediction of social well-being. Optimal social functioning inevitably depends upon both behaviors within one's control and outside of one's control. Thus, it is likely that positive expectancies regarding one's own actions (i.e. hope) and other's actions (i.e. optimism) would both be important. Finally, we hypothesized that hope and optimism would differentially relate to the components of eudaimonic well-being. The primary theoretical distinction between the theories of hope and optimism is the relative emphasis placed on the importance of personal agency. Given that many of the components of eudaimonic well-being emphasize the role of the individual in pursuing and achieving goals (e.g. autonomy, environmental mastery), we hypothesized that hope, with its relative emphasis on personal agency, would exhibit stronger effects on the components of eudaimonic well-being than optimism.

Methods

Participants

A total of 591 undergraduates (239 males, 352 females) at a large Midwestern university participated in this study in exchange for psychology course credit. The participants[4] ranged in age from 18–45 with a mean age of 18.94. Roughly half of participants (46.9%) were 18 years old. The sample was primarily Caucasian (87.8%), with the remaining participants describing themselves as Asian (5.4%), Hispanic (1.9%), African American (1.4%), and other (3.6%). Participants completed all measures through a secure website. The scales and the items within each scale were presented in a random order to minimize fatigue effects.

Measures

Revised Snyder Hope Scale (RHS). The Revised Snyder Hope Scale (Shorey et al., 2009) is an 18-item measure designed to assess the three facets of Snyder's (2002) cognitive theory of hope: pathways, agency, and goals. Six items tap each of the three components with a balance between positively and negatively worded items. Negatively worded items were reverse coded prior to computing means for the agency, goals, and pathways subscales. The alpha reliability of the total scale, and the agency, pathways, and goals subscales of the RHS were 0.91, 0.82, 0.79, and 0.80, respectively.

Life Orientation Test-Revised (LOT-R). The LOT-R (Scheier, Carver, & Bridges, 1994) was designed to assess general expectations for future positive outcomes (optimism). It contains 10 items: three items that assess positive expectations, three items that assess the absence of negative expectations, and four filler items.

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Participants responded to the items by indicating their level of agreement on a five-point Likert scale. The negatively worded items were reverse coded prior to computing means of the three optimism items and the three pessimism items. The alpha reliability for the LOT-R in the present study was 0.85.

Eudaimonic well-being. A 42-item version of Ryff's (1989) scales was used to assess the six facets of eudaimonic well-being. Each of the six factors was assessed using seven items in which participants indicated their level of agreement on a seven-point Likert scale. Negatively worded items were reverse-coded prior to all analyses. Alpha reliabilities for the six scales ranged from 0.72 to 0.86 in this sample.

Social well-being. Social well-being was measured using the scales developed by Keyes (1998) to measure the five factors in his model of social well-being. Each scale contains six or seven items and participants indicated their level of agreement using a seven point Likert scale. Alpha reliabilities for the five scales ranged from 0.66 to 0.87 in this sample.

Hedonic well-being. The three components of hedonic well-being were measured using the Positive and Negative Affect Schedule (PANAS) and the Subjective Happiness Scale (SHS). The trait version of the PANAS (Watson, Clark, & Tellegen, 1988) was used to assess general emotional experience. The PANAS contains 10 items which assess positive affect and ten items which assess negative affect. Alpha reliabilities for the positive and negative affect scales were 0.89 and 0.88, respectively. The Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) is a four item measure designed to assess general subjective evaluations of happiness. Participants respond to each of the items using seven-point Likert scales. The alpha reliability for the Subjective Happiness Scale was 0.87 in this sample.

Analytic procedures

We utilized Structural Equation Modeling (SEM) to analyze the relationships between positive expectancies and well-being. SEM provides a flexible statistical framework in which the associations between many variable can be examined while controlling for measurement error that often affects traditional statistical techniques. All models were analyzed using LISREL 8.80 and maximum likelihood estimation procedures. The variance-covariance matrix was used for all models and the scale for all latent constructs was established by specifying the latent variance to equal 1.0. Measurement and structural models were evaluated for goodness of fit using several common fit indices: the root mean square error of approximation (RMSEA; Steiger & Lind, 1980) and its 90% confidence interval (90% CI), the standardized root mean residual (SRMR; Jöreskog & Sörbom, 1996), the non-normed fit index (NNFI; Bentler & Bonett, 1980), and the comparative fit index (CFI; Bentler, 1990).

Sixteen latent constructs were examined: hope, optimism, the six facets of eudaimonic well-being, the five facets of social well-being, and the three facets of hedonic well-being. Correlations between and means and standard deviations of these measures can be found in Table 1. We found no gender differences in levels of hope or optimism. The latent construct of hope was specified using the agency, goals, and pathways subscale totals of the Snyder Hope Scale (Shorey et al., 2009) as the three manifest indicators

Table 1. Descriptive statistics and correlations between manifest constructs.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Autonomy	1															
2. Environmental mastery	0.40	1														
3. Personal growth	0.41	0.44	1													
4. Positive relations	0.40	0.60	0.50	1												
5. Purpose in life	0.40	0.68	0.60	0.60	1											
6. Self acceptance	0.43	0.72	0.50	0.68	0.69	1										
7. Social acceptance	0.12	0.42	0.32	0.52	0.42	0.45	1									
8. Social actualization	0.18	0.46	0.42	0.49	0.52	0.51	0.58	1								
9. Social coherence	0.38	0.38	0.47	0.36	0.44	0.41	0.36	0.42	1							
10. Social contribution	0.35	0.55	0.52	0.49	0.66	0.59	0.44	0.57	0.53	1						
11. Social integration	0.26	0.59	0.41	0.64	0.61	0.63	0.56	0.64	0.44	0.73	1					
12. Positive affect	0.35	0.54	0.39	0.44	0.55	0.54	0.30	0.37	0.23	0.53	0.51	1				
13. Negative affect	−0.29	−0.51	−0.30	−0.39	−0.41	−0.51	−0.30	−0.27	−0.27	−0.31	−0.34	−0.31	1			
14. Life satisfaction	0.32	0.60	0.40	0.60	0.54	0.69	0.45	0.42	0.29	0.45	0.52	0.57	−0.52	1		
15. Hope	0.45	0.63	0.58	0.51	0.74	0.61	0.31	0.45	0.43	0.64	0.53	0.62	−0.38	0.50	1	
16. Optimism	0.31	0.60	0.40	0.53	0.56	0.70	0.45	0.45	0.35	0.51	0.54	0.49	−0.47	0.62	0.53	1
Mean	4.16	4.25	4.67	4.45	4.69	4.47	3.71	4.48	4.45	4.50	4.36	3.61	2.01	5.16	6.14	3.54
Std. Dev.	0.78	0.80	0.71	0.80	0.80	0.92	0.82	0.75	0.69	0.80	0.85	0.68	0.70	10.18	0.93	0.84

All correlations significant at $p < 0.005$.

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of hope. The latent construct of optimism was specified using the optimism and pessimism (reverse-coded) subscale totals of the LOT-R (Scheier et al., 1994) as the two manifest indicators of optimism. Thirteen of the latent constructs of well-being (all but subjective happiness) were specified using three parcels as manifest indicators of each construct. Parceling is a technique in which individual items are aggregated in order to create parcels that demonstrate superior psychometric properties (i.e. higher reliability, reduced chance of distributional violations; Little, Cunningham, Shahar, & Widaman, 2002). Parcels for each of these 13 constructs were created by aggregating 2–3 items from the respective scales. The latent construct of subjective happiness was specified using the four items of the SHS (Lyubomirsky & Lepper, 1999) as the four manifest indicators.

These 16 latent constructs were used to specify three models. The first model tested the hypothesis that hope and optimism are distinct latent constructs. The second model tested the alternative hypothesis that hope and optimism are a single latent construct. Finally, the third model examined the effects of hope and optimism on the 14 facets of well-being. Due to the large number of parameters to be estimated in the structural equation model examining the unique effects of hope and optimism on well-being, we used bootstrapping to provide more stable estimates of the latent effects of positive expectancies on well-being. Bootstrapping is a resampling technique that allows for the calculation of confidence intervals for statistics such as latent regression parameters. We used PRELIS to create 1000 random resamplings of our data and used LISREL to analyze the proposed models with each of these resampled data sets. We then entered the output from these analyses into SPSS in order to calculate the mean, standard deviation, and confidence intervals of the latent regression parameters of the positive expectancies on each of the components of well-being.

Results

Hope and optimism as oblique latent constructs

We first examined our hypothesis that hope and optimism are distinct constructs by specifying a confirmatory factor analysis model with hope and optimism as oblique latent constructs (Figure 1). This two-factor model demonstrated excellent fit (χ^2 (4, $n = 591$) = 18.92, $p < 0.001$; NNFI = 0.98; CFI = 0.99; RMSEA = 0.08; SRMR = 0.03) and indicated that the latent constructs of hope and optimism were correlated at $r = 0.66$. An alternative model was examined next to determine whether a single latent construct of positive expectancies would provide a more parsimonious representation of the data. The three indicators of hope and the two indicators of optimism were specified as five manifest indicators of a single positive expectancies latent construct. This model demonstrated poor fit (χ^2 (5, $n = 591$) = 173.12, $p < 0.001$; NNFI = 0.79; CFI = 0.89; RMSEA = 0.24; SRMR = 0.09) and nested model comparisons (χ^2 (1) = 154.20, $p < 0.001$) indicated that the reduction of hope and optimism to a single latent construct was not tenable. Our hypothesis that hope and optimism are correlated but distinct latent constructs was therefore supported.

Unique effects of hope and optimism on well-being

After we found support for our hypothesis that hope and optimism are distinct latent constructs, we used structural equation modeling to examine whether hope and optimism have unique effects on the 14 components of well-being. A model was specified in which hope and optimism were each specified as predictors of

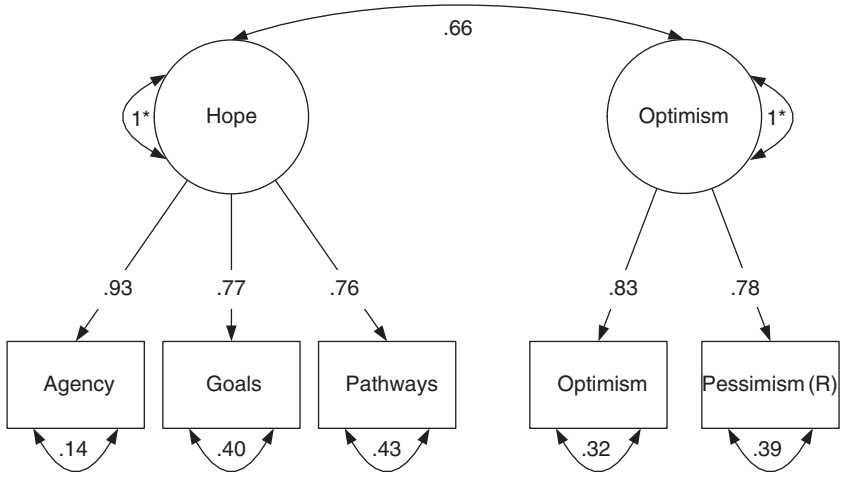

Figure 1. Confirmatory Factor Analysis with hope and optimism specified as oblique factors. Completely standardized solution. Model fit: χ^2 (4, $n = 591$) = 18.92, $p < 0.001$; NNFI = 0.98; CFI = 0.99; RMSEA = 0.08; SRMR = 0.03.

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the 14 components of well-being. This model demonstrated excellent fit (χ^2 (960, $n = 591$) = 2300.70; NNFI = 0.98; CFI = 0.98; RMSEA = 0.053, RMSEA 90% CI = 0.050–0.054; SRMR = 0.044). The means, standard deviations, confidence intervals, and completely standardized results of this model can be found in Table 2. Hope had a unique effect on 12 of the 14 components of well-being (all but negative affect and social coherence), and optimism had a unique effect on 12 of the 14 components of well-being (all but autonomy and personal growth). Together hope and optimism accounted for a moderate to high proportion of variance of each of the 14 components of well-being (R^2 ranging from 0.29 for autonomy to 0.80 for purpose in life). These results therefore demonstrate that hope and optimism are both important predictors of the various components of well-being.

Differential effects of hope and optimism on well-being

We next examined whether hope and optimism differentially predicted the various aspects of well-being. We compared the confidence intervals of the latent regression effects, as well as the magnitude of the completely standardized latent regression parameters. Results indicated that optimism was more strongly associated with the components of hedonic well-being. Optimism had a statistically significant effect (i.e. the 95% confidence interval of B did not include 0) on each of the three components of hedonic well-being (average completely standardized effect of $B = 0.464$), whereas hope had a statistically significant effect on two of the three components of hedonic well-being (average completely standardized effect of $B = 0.265$). Optimism was also more strongly associated with the components of social well-being, although the differences were small. Optimism had a statistically significant effect on each of the five components of social well-being (average completely standardized effect of $B = 0.359$), whereas hope had a statistically significant effect on four of the five components of social well-being (average completely standardized effect of $B = 0.324$). Finally, our results indicated that hope was more strongly associated with the components of eudaimonic well-being. Hope had a statistically significant effect on each of the six components of eudaimonic well-being (average completely standardized effect of $B = 0.487$), whereas optimism had a statistically significant effect on four of the six components of hedonic well-being (average completely standardized effect of $B = 0.342$). These results therefore suggest that hope and optimism may differentially relate to the components of flourishing mental health.

Discussion

Our results provide three important contributions to the understanding of how hope and optimism relate to one another and to well-being. First, the results of our confirmatory factor analysis of the latent structure of hope and optimism provide further support for the hypothesis that hope and optimism are related, but distinct latent constructs that each represent a manner in which individuals maintain and express positive expectancies. The overlap between the constructs is demonstrated by the latent correlation between hope and optimism of 0.66 (Figure 1), which indicates that

Table 2. Means, Standard Deviations, Confidence Intervals of, and Completely Standardized latent regression effects of hope and optimism on well-being.

	Optimism				Hope			
	$\overline{B}$	$\overline{SD}$	95% CI	B	$\overline{B}$	$\overline{SD}$	95% CI	B
Eudaimonic well-being								
Autonomy	0.082	0.097	−0.110 : 0.276	0.069	0.591	0.097	0.407 : 0.797	0.493
Environmental mastery	1.080	0.220	0.753 : 1.678	0.515	0.916	0.179	0.604 : 1.332	0.442
Personal growth	0.136	0.124	−0.114 : 0.392	0.092	1.110	0.173	0.819 : 1.469	0.702
Positive relations	0.673	0.112	0.475 : 0.909	0.471	0.417	0.094	0.232 : 0.606	0.298
Purpose in life	0.524	0.139	0.263 : 0.794	0.229	1.695	0.272	1.251 : 2.310	0.729
Self-acceptance	1.409	0.312	1.044 : 2.138	0.676	0.523	0.127	0.279 : 0.773	0.256
Social well-being								
Social coherence	0.649	0.108	0.456 : 0.869	0.540	0.004	0.086	−0.170 : 0.162	0.005
Social integration	0.474	0.102	0.276 : 0.678	0.375	0.370	0.094	0.193 : 0.562	0.290
Social contribution	0.250	0.106	0.058 : 0.462	0.201	0.490	0.105	0.296 : 0.720	0.407
Social acceptance	0.383	0.105	0.182 : 0.595	0.243	0.943	0.128	0.715 : 1.226	0.593
Social actualization	0.617	0.109	0.411 : 0.842	0.438	0.452	0.086	0.288 : 0.617	0.327
Hedonic well-being								
Positive affect	0.337	0.085	0.169 : 0.513	0.238	0.776	0.094	0.594 : 0.972	0.538
Negative affect	−0.612	0.101	−0.816 : −0.422	−0.492	−0.147	0.087	−0.319 : 0.034	−0.122
Life satisfaction	1.033	0.146	0.766 : 1.337	0.663	0.207	0.095	0.011 : 0.383	0.136

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roughly 44% of the latent variance of these constructs is shared. However, the results of the confirmatory factor analysis demonstrate that the reduction of hope and optimism to a single positive expectancies factor is not tenable. These findings therefore build upon previous research that demonstrate the distinctions between hope and optimism (Bryant & Cvengros, 2004) and provide an empirical basis for examining the unique effects of hope and optimism on well-being.

The second contribution of these findings stems from the results of the bootstrapped structural equation models, which examined the unique effects of hope and optimism on the components of eudaimonic (Ryff, 1989), social (Keyes, 1998), and hedonic well-being (Diener, 1984). Hope and optimism each demonstrated unique effects on the majority of the 14 components of well-being. Hope had a significant effect on 12 of the 14 well-being components (all but negative affect and social coherence), and optimism had a significant effect on 12 of the 14 well-being components (all but autonomy and personal growth). The magnitude of effects that hope and optimism had on the 14 well-being constructs is particularly noteworthy. Hope and optimism together accounted for between 29% and 80% of the variance of the well-being factors (51.14% on average). These results suggest that hope and optimism are important indicators and potential pathways to positive mental health.

The third contribution stems from the examination of the differential effects of hope and optimism on the components of well-being. As expected, hope and optimism appeared to contribute similarly to the components of social well-being. Our results also supported our hypothesis that hope is more related to the facets of eudaimonic well-being than optimism. Hope uniquely contributed to the prediction of all six facets of eudaimonic well-being, whereas optimism only uniquely contributed to the prediction of four of these facets. Contrary to our expectations, however, optimism exhibited more robust effects on the indicators of hedonic well-being than hope. These results therefore suggest that generalized positive expectancies (i.e. optimism) and positive expectancies regarding personal agency (i.e. hope) may be equally important for maintaining social aspects of well-being, that optimism may be more important for maintaining the pleasurable aspects of well-being, and that hope may be more important for maintaining the purposeful aspects of well-being.

Previous examinations of the effects of hope and optimism on positive mental health have focused on the components of hedonic well-being (Carver & Scheier, 2002a; Lucas, Diener, & Suh, 1996; Snyder et al., 1991, 1996) and have generally only examined the effects of hope or optimism in isolation. Our results therefore build upon this previous work in a number of important ways. By concurrently examining the effects of hope and optimism, we were able to demonstrate that the two theories and constructs are not redundant, and that both constructs uniquely contribute to the prediction of well-being. By using structural equation modeling as the analytical framework, we were able to control for measurement error and, as a result, can more confidently interpret the effect size results. By examining the unique effects of hope and optimism on the components of eudaimonic (Ryff, 1989), social (Keyes, 1998), and hedonic well-being (Diener, 1984), we have demonstrated that hope and optimism are each uniquely associated with the full range of factors which have been proposed to represent flourishing mental health (Gallagher et al., 2009; Keyes, 2002, 2005). By examining the differential effects of hope and optimism we determined that optimism has more of an effect on hedonic well-being whereas hope has more of an effect on eudaimonic well-being. Finally, by using bootstrapping resampling techniques on a large sample, we provided more precise estimates of the latent effects of hope and optimism on well-being.

Limitations

Although the results of the structural equation models consistently demonstrated that hope and optimism have unique effects on the various facets of flourishing mental health (Keyes, 2005), certain limitations of this study should be noted. The sample was homogenous both in terms of the age and ethnicity of the participants. It will therefore be important for future research to examine the effects of positive expectancies in the form of hope and optimism in individuals of different ages, ethnicities, and socioeconomic statuses. It is also important to remember that Snyder's theory of hope and Scheier and Carver's theory of optimism represent a Western perspective that emphasizes the achievement of personal goals (Snyder & Lopez, 2007). Previous comparisons of the effects of optimism in Caucasian and Asian Americans have found that higher levels of pessimism actually predicted improved problem solving for Asian Americans (Chang, 1996). Additional research is therefore needed to discern whether high optimism and high hope are equally adaptive in other cultures.

Future directions

Further research is also needed to explore the possibility that the comparative influence of hope and optimism varies by situation. The two theories differ in the role they assign to personal agency in goal pursuits. It may be that in certain life areas it is more adaptive to emphasize the role of personal agency, while in other arenas it may be more adaptive to hold positive

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expectations but allow for external sources of agency. Previous theoretical discussions of the differences between hope and optimism (Snyder, 2002; Snyder et al., 2001) have noted potential situations in which this might be the case and our results provide preliminary support for this hypothesis by demonstrating that hope and optimism are differentially related to certain aspects of positive mental health. Empirical tests of the differential effects of hope and optimism in specific contexts are now needed. We would suggest that researchers focus on the effects of hope in contexts more dependent on personal agency and focus on the effects of optimism in contexts more dependent on external agency. Similarly, practitioners may want to consider the extent to which clients endorse an internal or external locus of control for particular outcomes when considering whether to focus on developing clients' levels of hope or optimism.

One final area of research that is crucial is longitudinal work examining the unique and shared effects of hope and optimism across time. Although we know a good deal about the various positive outcomes associated with hope and optimism, longitudinal studies could help researchers determine whether hope and optimism merely reflect past successes or, as the theories would suggest, promote future positive outcomes. Longitudinal research could also advance our understanding of the particular behaviors or psychological processes that mediate the relationships between hope, optimism, and well-being.

Conclusions

Research examining the beneficial effects of hope and optimism has flourished in the past two decades as empirical work has consistently demonstrated the benefits of positive expectancies for the future. The present study extends this work by demonstrating that hope and optimism are empirically distinct, that hope and optimism uniquely contribute to the prediction of flourishing mental health, and that hope and optimism differentially relate to the components of well-being. Although additional experimental and longitudinal work is needed to precisely identify the mechanisms by which hope and optimism promote mental health, these results help provide the basis for examining how hope and optimism promote flourishing mental health.

Notes

1. Although in the present paper we are focusing exclusively on Snyder's (2002) conceptualization of hope, there are a number of alternatives theories of hope that have been proposed by other researchers (e.g. Herth, 1992; Stotland, 1969).
2. Seligman and colleagues' theory of attributional style is also commonly referred to as optimism, but primarily focuses on causal explanations used to explain bad outcomes. Although attributional style is likely an important predictor of mental health and mental illness, the construct is not necessarily a form of positive expectancies, and is therefore not the focus of the present study.
3. In this way, hope theory is similar to self-efficacy theory (Bandura, 1977, 1997) in that both hope theory and self-efficacy theory suggests that personal agency is the primary determinant of goal achievement. The primary theoretical difference is that self-efficacy emphasizes domain specific perceptions of agency in terms of capabilities (e.g. I can do x) whereas hope emphasizes global perceptions of agency in terms of both capabilities and outcome (e.g. I can and will do x). Hope theory also places more emphasis on the generation of specific pathways or strategies to achieve goals (Snyder, 2002).
4. Data from this sample has previously been published (Gallagher, Lopez, & Preacher, 2009). This previous article examined the latent structure of well-being and did not include any examination of the effects of hope or optimism on well-being.

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